

Special Issue

Advanced Materials and Technologies for Hydrogen Production and Storage

Message from the Guest Editors

Renewable hydrogen production and storage play a pivotal role in catalysing the transition from fossil-based to green and decentralised energy generation. There is huge drive to replace fossil fuels in the near future to reduce carbon emissions that cause global warming and undesirable climatic changes. Aware of this reality, *green H₂* is being considered as a potential player in national and international strategies and is increasingly being applied to different sectors, from industry to transport. This Special Issue aims to present and disseminate the most recent advances in the fields of catalysis, process efficiency, modelling, techno-economic assessment (TEA), and life-cycle analysis (LCA) to understand the technology development, cost, and environmental impacts on the hydrogen energy route, including production, storage, and final use.

- Hydrogen production from renewable and waste feedstocks, such as biogas, glycerol, and alcoholic waste;
- Hydrogen storage technologies, including compressed and liquefied hydrogen, liquid organic carriers, metal hydrides, methanol (CH₃OH), and ammonia (NH₃);
- Synthetic natural gas (SNG) production by Sabatier reaction.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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